SANTA CRUZ BIOTECHNOLOGY, INC.

AMPKγ2 (N-20): sc-19141

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

AMPK (for 5'-AMP-activated protein kinase) is a heterotrimeric complex comprising a catalytic α subunit and regulatory β and γ subunits. It protects cells from stresses that cause ATP depletion by switching off ATP-consuming biosynthetic pathways. AMPK is activated by high AMP and low ATP through a mechanism involving allosteric regulation, promotion of phosphorylation by an upstream protein kinase known as AMPK kinase, and inhibition of dephosphorylation. Activated AMPK can phosphorylate and regulate *in vivo* hydroxymethylglutaryl-CoA reductase and acetyl-CoA carboxylase, which are key regulatory enzymes of sterol synthesis and fatty acid synthesis, respectively. The human AMPKα1 and AMPKα2 genes encode 548 amino acid and 552 amino acid proteins, respectively. Human AMPK-β1 encodes a 271 amino acid protein and human AMPKβ2 encodes a 272 amino acid protein. The human AMPKγ1 gene encodes a 331 amino acid protein. Human AMPKγ2 and AMPKγ3, which are 569 and 492 amino acid proteins, respectively, contain unique N-terminal domains and may participate directly in the binding of AMP within the AMPK complex.

CHROMOSOMAL LOCATION

Genetic locus: PRKAG2 (human) mapping to 7q36.1; Prkag2 (mouse) mapping to 5 A3.

SOURCE

AMPKγ2 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of AMPKg2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19141 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AMPKγ2 (N-20) is recommended for detection of AMPKγ2 of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

AMPKγ2 (N-20) is also recommended for detection of AMPKγ2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for AMPKγ2 siRNA (h): sc-38931, AMPKγ2 siRNA (m): sc-38932, AMPKγ2 shRNA Plasmid (h): sc-38931-SH, AMPKγ2 shRNA Plasmid (m): sc-38932-SH, AMPKγ2 shRNA (h) Lentiviral Particles: sc-38931-V and AMPKγ2 shRNA (m) Lentiviral Particles: sc-38932-V.

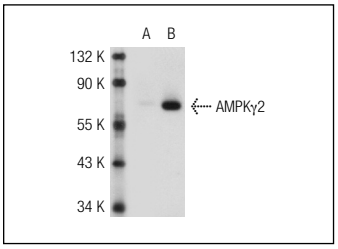
Molecular Weight of AMPKγ2: 63 kDa.

Positive Controls: JAR cell lysate: sc-2276, AMPKγ2 (m): 293T Lysate: sc-118382 or AMPKγ2 (h): 293T Lysate: sc-113409.

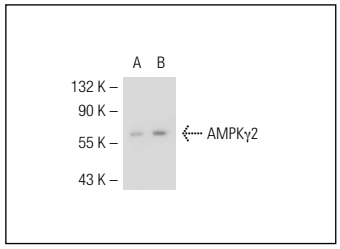
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



AMPKγ2 (N-20): sc-19141. Western blot analysis of AMPKγ2 expression in non-transfected: sc-117752 (**A**) and mouse AMPKγ2 transfected: sc-118382 (**B**) 293T whole cell lysates.



AMPKγ2 (N-20): sc-19141. Western blot analysis of AMPKγ2 expression in non-transfected: sc-117752 (**A**) and human AMPKγ2 transfected: sc-113409 (**B**) 293T whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.